

REMARKS

Claims 1-9 are currently pending, wherein claim 1 is independent. Favorable reconsideration is respectfully requested in view of the remarks presented herein below.

At the outset, Applicants note with appreciation the indication that claims 7 and 8 contain allowable subject matter and would be allowed if rewritten in independent form.

On page 2 of the final Office action ("Action"), the Examiner rejects claims 1 and 3-6 under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent Publication No. 2003-240852 to Shunpei ("Shunpei") in view of Japanese Patent Publication No. JP 04-133533 to Makoto et al. ("Makoto"). Applicants respectfully traverse this rejection.

In order to support a rejection under 35 U.S.C. §103, the Examiner must establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness three criteria must be met. First, there must be some motivation to combine the cited references. Second, there must be a reasonable expectation of success. Finally, the combination must teach each and every claimed element. In the present case, claims 1 and 3-6 are patentable over the combination of Shunpei and Makoto for at least the reason that the combination fails to teach each and every claimed element. More specifically, the combination fails to teach or suggest a frequency deviation detecting means that detects the frequency deviation of the light signal due to propagation by the optical guide as claimed.

In rejecting claim 1, the Examiner acknowledges that Shunpei fails to disclose a frequency deviation detecting means that detects the frequency deviation of the light signal due to propagation by the optical guide. Therefore, the Examiner relies on the teachings of Makoto to overcome the deficiencies of Shunpei. More specifically, the Examiner asserts that Makoto discloses "an output stabilized light source, in which the final light intensity at the end of the transmitting means (optical fiber) is monitored and returned to a reference voltage generation circuit, which compensates the influence of the intensity variation due to transmitting means." Therefore, the Examiner concludes that "[i]t would have been obvious to further include measure [sic] the frequency deviation caused by the propagation system to compensate for the influence of the intensity variation due to the propagation on the optical guide means." The Examiners assertions are unfounded for the following reasons.

First, nowhere in Makoto is there any disclosure or suggestion of detecting a *frequency* deviation due to propagation by the optical guide means as claimed. To the contrary, Makoto merely discloses monitoring intensity variation in the optical output. However, monitoring the intensity variation is not equivalent to detecting a frequency variation as claimed. Since Shunpei and Makoto both fail to disclose or suggest a light wave radar apparatus that includes a frequency deviation detecting means that detects the frequency deviation of the light signal due to propagation by the optical guide as claimed, the combination of these two references cannot possibly disclose or suggest said element. Therefore, even if one skilled in the art were motivated to combine Shunpei and Makoto, the combination would still fail to render claims 1 and 3-6 unpatentable because the combination fails to disclose each and every claimed element.

Dependent claim 4 further recites that the frequency deviation detecting means combines a part of the light signal emitted out of the light emitting means and part of the light signal propagated by the optical guide means to generate a combined light and detects the frequency deviation from the combined light. In rejecting claim 4, the Examiner points to Fig. 1 of Makoto as disclosing the claimed combined light.

However, Fig. 1 of Makoto clearly only illustrates a single light means diverted from the optical transmission line 8. Therefore, either Makoto fails to disclose combining the part of the light signal emitted out of the light emitting means or Makoto fails to disclose combining the part of light propagated by the optical guide means as clearly Makoto only illustrates a signal light part. Accordingly, claim 4 is patentable over the combination of Shunpei and Makoto not only for those reasons presented above with respect to claim 1, but also because the combination fails to disclose detecting the frequency deviation in the *combined* light as claimed.

Dependent claim 5 further recites that the frequency deviation detecting means combines part of the light signal emitted out of the light emitting means, and a light signal reflected by an internal reflection point between the optical guide means and the light transmit-receive means to generate a combined light, and detects the frequency deviation of the light signal from the combined light. The combination of Shunpei and Makoto fails to disclose detecting a frequency deviation in a combined light (see discussion above with respect to claim 4). Therefore, claim 5 is patentable over the combination of Shunpei and Makoto not only for those reasons presented

above with respect to claim 1, but also because the combination fails to disclose detecting the frequency deviation in the *combined* light as claimed.

Dependent claim 6 further recites that the frequency deviation detecting means detects the frequency deviation of the light signal from a temporal change in the intensity of the light signal. In rejecting claim 6, the Examiner asserts that Makoto teaches detecting a frequency deviation of the light signal from a temporal change in the intensity of the light signal. However, the Examiner provides no support for such an assertion.

Although Makoto discloses monitoring the intensity of the light signal in the form of converting the light signal into an electrical signal so that the converted electrical signal can coincide with a reference voltage. Nowhere in Makoto is there any disclosure or suggestion of determining a temporal change in the intensity of the light signal and using the determination to detect a frequency deviation as claimed.

For at least those reasons presented above, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1 and 3-6 under 35 U.S.C. § 103.

On page 4 of the Action, the Examiner rejects claims 2 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Shunpei in view of Makoto, further in view of Japanese Patent Publication No. 63-266382 to Osamu (Osamu '82) or Japanese Patent Publication No. 63-71675 to Osamu (Osamu '75). Applicants respectfully traverse this rejection.

As discussed above with respect to claim 1, from which claims 2 and 7 depend, the combination of Shunpei and Makoto fails to disclose or suggest a frequency deviation detecting means that detects the frequency deviation of the light signal due to propagation by the optical guide as claimed. Therefore, claim 2 is patentable over the combination of Shunpei and Makoto for at least those reasons presented above with respect to claim 1.

Osamu '82 and Osamu '75 disclose a laser distance measuring instrument. However, neither of these two references overcome the deficiencies of Shunpei and Makoto. Since Shunpei, Makoto, Osamu '82, and Osamu '75 each fail to disclose or suggest a light wave radar apparatus that includes a frequency deviation detecting means that detects the frequency deviation of the light signal due to propagation by the optical guide as claimed, any combination of these four references cannot possibly disclose or suggest said element. Therefore, even if one

skilled in the art were motivated to combine Shunpei, Makoto, Osamu '82, and/or Osamu '75, the combination would still fail to render claims 2 and 7 unpatentable because the combination fails to disclose each and every claimed element. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 2 and 7 under 35 U.S.C. § 103.

The application is in condition for allowance. Notice of same is earnestly solicited. Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Penny Caudle Reg. No. 46,607 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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